Science and Art.

Patent Law Changes.

The recent discussion of proposed changes in the Patent laws in our columns has attracted considerable interest among our readers, and we have received quite a number of communications upon this subject. The leading suggestions of their authors are but confirmations of the views we have already expressed, and therefore we do not think we are justified in devoting space to their publication. We are much obliged for these communications. They are cheering proofs of the correctness of our views on this important subject.

Ericsson's Hot Air Engines on the State Canals.

We notice in the reports of the doings of the Legislature of this State, as published in the New York *Herald*, that "Mr. Armstrong has introduced a bill in the Assembly to incorporate a company with the title of the 'Ericsson Manufacturing and Navigation Company.' The corporators are John Ericsson, J. B. Kitching, Cornelius H. Delameter and James Hogg; and their objects and purposes are the building, equipment and propelling of vessels on the navigable waters of this State, by means of engines whose power is heated air or caloric, as now patented, or as may from time to time be patented by Ericsson or his associates. Their capital stock is to be $500,000, in shares of $100 each. They are authorized to use boats with this motive power on the canals, provided they put them on within eighteen months from the passage of the act. In that case they have the exclusive privilege, for thirty years, of towing boats carrying freight and passengers on the canals of the State; provided their boats are so constructed as not to produce any greater wash or wear and tear to the canals than is produced by the boats now in use. The boats used are to receive the sanction and approval of the Canal Commissioners, and submit to such restrictions as to speed, right of way, &c., as is necessary to the preservation and safe navigation of the canals."

It is desirable, unquestionably, to introduce some system of propulsion on our State canals more in harmony with the spirit of the age; but we must condemn all attempts of this character. They are at war with all true notions of progress, and will meet with no encouragement from practical legislators. If the Ericsson scheme is best adapted to change the present system, we shall cheerfully advocate its introduction, but not as an exclusive monopoly. Ericsson is secured in the full enjoyment of his rights as an inventor under the grant of Letters Patent. He has but to show by proper experiment that his plan is best, and it will, no doubt, be adopted, and the privilege will belong to him so far as the right to build and operate his inventions is concerned. Such an attempt as this to obtain a complete monopoly of the State canals might have been tolerable, if proposed in the days of Prince Rupert and Jonathan Hull; but in this stirring age of improvement, a "thirty years exclusive privilege" smacks of a past generation.

There are some inventors so impatient of success that they are never satisfied to let their discoveries stand out upon their own merits. They must be continually nursing up some magnificent scheme—some giant enterprise—through which to startle a whole world. These comet-like effusions dazzle but for a moment, while the light of a steady progress continues to shine on, not a whit the less sure, though those eccentric comets may have momentarily intercepted its rays.

Improved Plow.

As every one engaged in the cultivation of the soil is interested in all improved implements for this purpose, we present to their attention two plows which are specially designed for the purpose of superseding the harrow and the spade. It is well known that it is of the utmost importance to the farmer that the soil should be broken up as finely as possible, so that every particle may be exposed to the invigorating action of light, and also may absorb from the air much of the material which will enable it to sustain the plant. The ordinary method of breaking up the soil is by cross-plowing or by harrowing, but this plow cuts and breaks up the ground as well as if it had been harrowed.

VAN LOAN'S IMPROVED PLOW.

Fig. 2

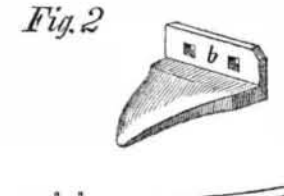
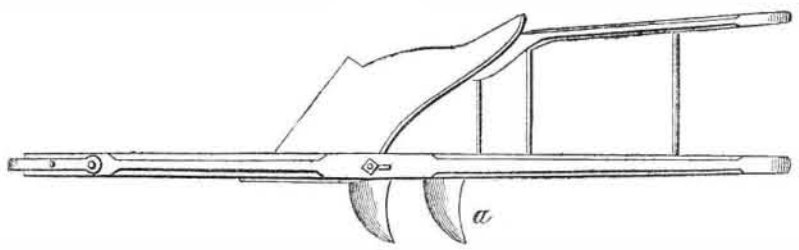


Fig. 1

The improvement consists in attaching one or two horizontal cutters to the land side of the plow, seen at *a*, Fig. 1, which is a side view of the plow, and Fig. 3, which is a top view of the same. These cutters are attached to the landside of the plow by means of a flange, *b*, Fig. 2, and bolts are passed through this flange, and so the cutters are screwed to the

Fig. 3



plow. There is a slot in the landside of the plow, through which the cutter is passed, and the bolts are put through the side of the plow, and passed through the flange inside. By taking off the bolts, the cutters are easily removed for sharpening, and they can again be easily attached, or they can be removed entirely when necessary, as when plowing stony ground.

This plow was patented Feb. 16, 1858, by the inventor, W. W. Van Loan, of Catskill, N. Y., who will dispose of rights for the Atlantic States, and will be happy to furnish any further information that may be desired.

DENNIS' SHOVEL PLOW.

Fig. 1

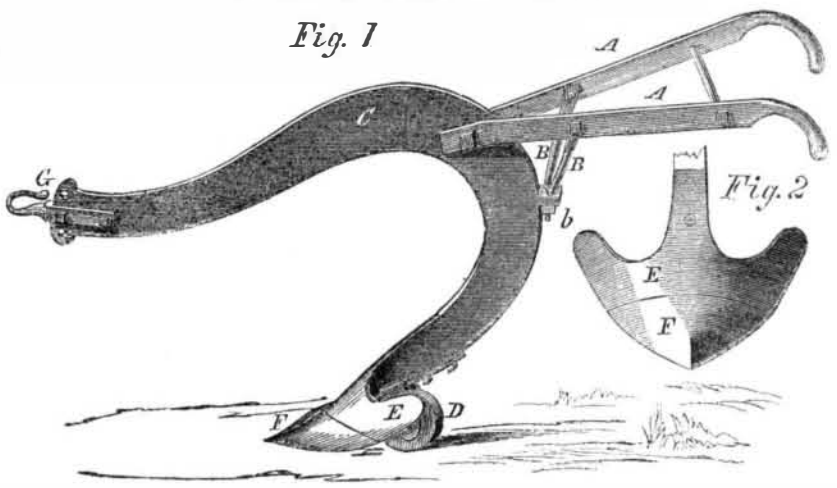


Fig. 2

The adaptation of the plow to cultivating, as well as turning up the ground, is a valuable application; and those plows which break up the ground without leaving a furrow, are called from their shape, "shovel plows." They are used for cultivating cotton and sugar, and sometimes, when the ground is light, for breaking up, as in the sandy soil of South Carolina.

The plow which is the subject of our engraving is the invention of Paul Dennis, of Bemis Hights, N. Y., and was patented by him February 23, 1858. It goes through the ground at any required depth, and leaves the ground quite mellow, with all the weeds cut up.

A A are the handles, secured to the beam, C, by means of the straps, B B, bolted to it at *b*. The beam, C, has an adjustable hook, to which the horses are attached at G, that can be raised or lowered as convenient. The mold-board, E, is screwed to the beam, and is shaped as seen in Fig. 2, the earth rising up it, and falling through the arches at its edge into the furrow again. The share, F, is also connected by an under plate, and screws to E. In consequence of the arrangement of the parts, the share can be easily removed, to be sharpened or repaired, and the mold-board does not scatter the earth, as is common, but passes it back over itself into the furrow.

It is a most convenient and useful shovel plow for general purposes.

Any further particulars can be obtained from the inventor as above.

Mosier's Sod Corn Planter.

In our description of this invention on page 236 of the present volume, we omitted to state that it was especially applicable for *sod* corn planting, and that it could be fixed to the fore axle of a cart as well as to any special wheels. The inventor, P. C. Mosier, resides at Homer, Illinois, and not at Homer, Michigan, as we previously stated.

THE long pilasters for the U. S. Treasury building, weigh from forty to forty-five tuns. It requires to draw them ten heavy yoke of oxen and four stout horses. It is stated that the cost of each pilaster, when in place on the building, is $2,500.

Literary Notices.

VENTILATION IN AMERICAN DWELLINGS—By Dr. D. B. Reid. Wiley & Halstead, New York.—The author of this work, who is, without exception, the greatest authority on ventilation, has here given us the results of his observations while in this country, and many practical suggestions by which we all may profit. By an extraordinary contradiction, the inhabitants of this country—enjoying as we do one of the most healthy climates in the world, our chief cities placed within reach of the Atlantic breezes, or else on the banks of some gigantic river, with every advantage of climate and geographical position—yet want the animal force, the rude health, and robust constitutions of our Saxon and Celtic ancestors. "Why is this?" is a question often asked, and the truthful answer, "bad ventilation," is as often given, yet no one attempts to remedy the matter and begins to ventilate his own house. In summer we expose ourselves to continual drafts, and in winter crowd together in stifling hot rooms, and so take every possible opportunity of committing modified suicide. One great reason or cause for this neglect is because ventilation as applied to houses and small rooms is not understood, and the opening of a window or a door is considered a sufficient ventilator. Dr. Reid teaches us, however, that ventilation consists not in drafts, but in the regular supply of the necessary quantity of fresh air into a room, and in suitable means for the egress of the foul. The book now published contains the application of this principle to dwelling houses of all kinds, shapes, and sizes, from the marble palace to the log cabin. There is an excellent and valuable chapter on the ventilation and disinfection of the sick chamber, and each subject is illustrated with full and lucid diagrams, so that any person with common sense may ventilate his own house, and the slight amount of trouble it will involve will be amply repaid by increased health and spirits. We can only say, in conclusion, that the subject is one of personal interest and national importance, and Dr. Reid has done a great service to the American people by the publication of this work. We hope it will be read by all, and that its advice will be generally taken. The system may not be the best, direct experiment can only test this, but it is a *system* for the ventilation of American dwellings, and as such we are thankful for it. At some future period we may make some extracts from this work for the benefit of our readers.

THE MAGICIAN'S OWN BOOK—Dick & Fitzgerald, New York.—This is a well arranged and admirably gotten-up book, explaining the majority of tricks performed by so-called magicians, and illustrated with a great number of engravings. Much useful information is also introduced, and the philosophy of the tricks is fully explained. It is a book that should be possessed by every boy, as it will teach him much, and keep him out of mischief for many an idle hour, besides helping to endow him with the faculty of promoting the enjoyment of others.

THE ECLECTIC MAGAZINE for April. W. H. Bidwell, editor and proprietor, New York.—This magazine contains handsome portraits of the Prince and Princess of Prussia, a very able article on the great French orator Bossuet, and many others of universal interest and great ability.